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Serial No. 10/628,307

Attorney Docket No. 100341.52572US

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A photochromic plastic object comprising a transparent synthetic resin body composed of at least two interpenetrating polymer networks of different polymer materials and at least one photochromic dye homogeneously distributed therein.

2. (Original) A photochromic plastic object according to claim 1, wherein one of the at least two interpenetrating polymer networks is composed of polyurea or polyurethane.

3. (Original) A photochromic plastic object according to claim 2, wherein a second one of the at least two interpenetrating polymer networks is composed of polyacrylate, polymethacrylate or a mixture thereof.

4. (Currently amended) A method of producing a transparent synthetic resin body composed of at least two interpenetrating polymer networks of different polymer materials and at least one photochromic dye homogeneously distributed therein, said method comprising

initially producing a first polymer network composed of a first polymer material;

subsequently producing a second polymer network composed of a second polymer material different from said first polymer material in such a way that the two networks of different polymer materials interpenetrate, and

adding the at least one photochromic dye before or during polymerization to form a transparent synthetic resin body composed of at least two interpenetrating polymer networks of different polymer materials and at least one photochromic dye homogeneously distributed therein .

5. (Original) A method according to claim 4, wherein said first polymer network is produced without using an initiator.

6. (Original) A method according to claim 4, wherein the first polymer network is produced by a polyaddition reaction, and the second polymer network is produced by thermal, radical or UV-light initiated polymerization.

7. (Original) A method according to claim 6, wherein the polyaddition reaction is carried out at room temperature and without using an initiator.

8. (Original) A composite comprised of a photochromic plastic object according to claim 1, and at least one inorganic material.

9. (Previously presented) A photochromic plastic object according to claim 1, wherein the object is selected from the group consisting of lenses, visors, and window glazings.

10. (Original) A photochromic plastic object comprising a transparent synthetic resin body composed of at least two interpenetrating polymer networks of different polymer materials and at least one photochromic dye homogeneously distributed therein, wherein the at least one photochromic dye is introduced to the polymer networks by a mass dyeing process.

11. (Currently amended) A method according to Claim 6, comprising forming the body simultaneously with the steps of producing a first polymer network and producing a second polymer network during polymerization.